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	2003 Enterprise Budgets for Winter Wheat, Spring Wheat, Spring Barley, Peas and Lentils in the 18 to 22-Inch Rainfall Area, Whitman County, Washington	
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PREFACE

Enterprise costs and returns vary from one location to the next and over time for any particular farming operation. Variability stems from differences in the following:

- Capital, labor and natural resources
- Type and size of machinery complement
- Cultural practices
- Size of farm enterprise
- Crop yields
- Input prices
- Commodity prices
- Management skill

Costs can also be calculated differently depending on the intended use of the cost estimate. The information in this publication provides cost of production estimates for producers in Whitman County, Washington. To avoid drawing unwarranted conclusions for any particular farm or group of farms, the reader must closely examine the assumptions used. If they are not appropriate for the situation under consideration, adjustments in the costs and/or returns should be made.

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2003 Enterprise Budgets for Winter Wheat, Spring Wheat, Spring Barley, Peas and Lentils in the 18 to 22-Inch Rainfall Area Whitman County, Washington

Randy Baldree and Herbert Hinman[1]

INTRODUCTION

This publication presents projected costs and returns for winter wheat, spring wheat, spring barley, peas and lentils grown in the 18"–22" rainfall area of Whitman County. These budgets are not representative of a particular farm. Instead, the budgets represent costs and returns anticipated under the specific assumptions adopted for the study. We recommend that individual growers use these budgets as a guide for developing budgets for their own farming operations. In order to get a better understanding of how to read and use crop budgets distributed by Washington State University, go to the WSU Farm Management Web site at http://farm-mgmt.wsu.edu/ and click on "Publication Links," click on "Unpublished" and then click on and download the manuscript "Understanding and Using WSU Crop Enterprise Budgets."

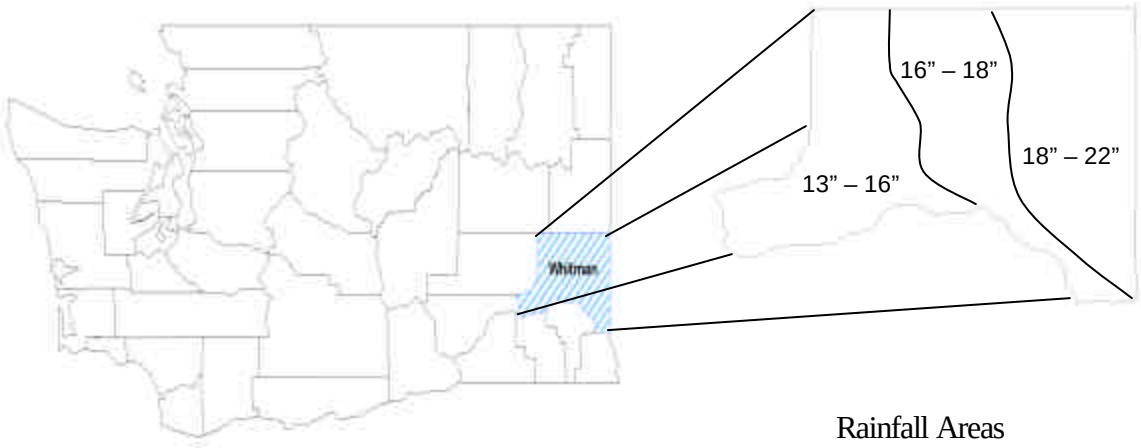

Figure 1. Whitman County, Washington

[1]Randy Baldree is a county extension agent located in Colfax, Washington, and Herbert Hinman is a farm management specialist located in Pullman, Washington, Cooperative Extension, Washington State University.

SOURCES OF INFORMATION

A committee of experienced Whitman County grain producers was assembled at the request of the county extension agent. This committee identified the machinery complement, field operations and inputs commonly used on well-managed operations. Local agricultural supply companies were contacted to obtain current price information on materials and services.

BUDGET ASSUMPTIONS

The committee assumed the following in developing the data:

1. The representative farms include 2,000 acres.
2. Since yield variability is quite common in Whitman County, yields were varied for each enterprise to demonstrate the substantial impact yields can have on per unit costs.
3. Prices received for the budgeted crops are $3.75 per bushel for both spring and winter wheat, $100 per ton for barley, 11¢ per pound for peas and 18.5¢ per pound for lentils.
4. Machinery values and costs vary widely from farm to farm in Whitman County. When replacing machinery producers replace with both new and used equipment. Thus, the machinery complement used in constructing these budgets is a representation of what a machinery complement might look like on a typical farm in the 18"–22" rainfall area.
5. The interest rate is 8.5%.
6. The farm is owned, managed and operated by the same person.

Due to the information and procedure followed, the budgets should be viewed as "typical" or "representative," rather than a mathematical average of a large number of producers. Where such factors as farm size, machinery complement and hourly use, cultural practices and yield differ from those assumed in this publication, substantially different enterprise costs and returns may result. Also, this budget includes only production costs and does not consider storage, handling, transportation and interest costs associated with marketing the crop.

DISCUSSION OF BUDGET INFORMATION

Summaries of the cost and return estimates per acre for winter wheat following peas or lentils, and winter wheat following spring wheat or spring barley in the 18"–22" rainfall area of Whitman County are presented in Tables 1 and 2, respectively. In each table, costs and returns at four different yield levels are presented.

Table 1. Summary of Cost and Return Estimates per Acre for Winter Wheat following Peas or Lentils in the 18–22 Inch Rainfall Area of Whitman County.

Production Level (Bushels)	70.00	75.00	80.00	85.00
Expected Price ($/Bushel)	3.75	3.75	3.75	3.75
Variable Cost	127.19	127.40	127.61	127.82
Fixed Cost (excl. land cost)	27.30	27.30	27.30	27.30
Total Cost (excl. land cost)	154.49	154.70	154.91	155.12
Returns – Cost	108.01	126.55	145.09	163.63
Land Cost	60.23	66.48	72.73	78.98
Total Cost (incl. land cost)	214.72	221.18	227.64	234.10
Returns – Cost	47.78	60.07	72.36	84.65
Average Cost ($/Bushel)	3.07	2.95	2.85	2.75

Table 2. Summary of Cost and Return Estimates per Acre for Winter Wheat following Spring Wheat or Spring Barley in the 18–22 Inch Rainfall Area of Whitman County.

Production Level (Bushels)	70.00	75.00	80.00	85.00
Expected Price ($/Bushel)	3.75	3.75	3.75	3.75
Variable Cost	126.16	126.37	126.58	126.79
Fixed Cost (excl. land cost)	27.20	27.20	27.20	27.20
Total Cost (excl. land cost)	153.36	153.57	153.78	153.99
Returns - Cost	109.14	127.68	146.22	164.76
Land Cost	60.45	66.48	72.73	78.98
Total Cost (incl. land cost)	213.81	220.05	226.51	232.97
Returns - Cost	48.69	61.20	73.49	85.78
Average Cost ($/Bushel)	3.05	2.93	2.83	2.74

Receipts are broken down by production levels and assumed price received. Costs are broken down by variable and fixed cost (excluding land cost), total cost (excluding land cost), land cost and total cost (including land cost). The reason costs are broken down in this manner is to show that cost of production for similar production systems vary little, regardless of production level, when land costs are not taken into consideration. Land costs, included either as real or opportunity costs, are based on the share rental arrangement typical in the area. In this study, net land rental cost was calculated as:

$$\frac{1}{3}\text{Crop Value} - \frac{1}{3}\text{Fertilizer Cost} - \frac{1}{3}\text{Chemical Cost} - \frac{1}{3}\text{Crop Insurance Cost} - \text{Land Taxes}$$

The operator pays all other production costs.

Since the net land rental value is based on production level, land cost varies directly as to production level that in turn directly affects the total cost value. For example, for winter wheat in Tables 1 and 2, total costs (excluding land cost) are about the same regardless of production level. However, when land costs are included, significant differences in total cost emerge. Thus, by breaking out land costs and showing results with and without land costs gives one a better comparison as to the cost differences. The complete details as to schedule of operations, input costs and the machinery complement used for crops in the 18"–22" rainfall area are presented in the Appendix. An explanation of how to read the tables presented in the Appendix is presented in the next section.

Summaries of the cost and return estimates per acre for spring wheat, spring barley, peas and lentils are presented in Tables 3, 4, 5 and 6, respectively. For each crop of winter wheat, costs and returns are presented at four different yield levels. The complete details of operations schedule, input costs and the machinery complement used for each of these crops are presented in the Appendix.

Table 3. Summary of Cost and Return Estimates per Acre for Spring Wheat following Spring Barley in the 18–22 Inch Rainfall Area of Whitman County.

Production Level (Bushels)	55.00	60.00	65.00	70.00
Expected Price ($/Bushel)	3.75	3.75	3.75	3.75
Variable Cost	164.72	164.98	165.23	165.48
Fixed Cost (excl. land cost)	39.38	39.38	39.38	39.38
Total Cost (excl. land cost)	204.10	204.36	204.61	204.86
Returns - Cost	2.15	20.64	39.14	57.64
Land Cost	34.12	40.37	46.62	52.87
Total Cost (incl. land cost)	238.22	244.73	251.23	257.73
Returns - Cost	-31.97	-19.73	-7.48	4.77
Average Cost ($/Bushel)	4.33	4.08	3.87	3.68

Table 4. Summary of Cost and Return Estimates per Acre for Spring Barley following Winter Wheat in the 18–22 Inch Rainfall Area of Whitman County.

Production Level (Tons)	1.50	1.75	2.00	2.25
Expected Price ($/Ton)	100.00	100.00	100.00	100.00
Variable Cost	133.38	133.81	134.24	134.67
Fixed Cost (excl. land cost)	39.54	39.54	39.54	39.54
Total Cost (excl. land cost)	172.92	173.35	173.78	174.21
Returns - Cost	-22.92	1.65	26.22	50.79
Land Cost	22.77	31.10	39.44	47.77
Total Cost (incl. land cost)	195.69	204.45	213.22	221.98
Returns - Cost	-45.69	-29.45	-13.22	3.02
Average Cost ($/Ton)	130.46	116.83	106.61	98.66

Table 5. Summary of Cost and Return Estimates per Acre for Peas following Winter Wheat in the 18–22 Inch Rainfall Area of Whitman County.

Production Level (Lbs.)	1800.00	1900.00	2000.00	2100.00
Expected Price (¢/Lb.)	11.0	11.0	11.0	11.0
Variable Cost	147.99	148.20	148.41	148.62
Fixed Cost (excl. land cost)	43.43	43.43	43.43	43.43
Total Cost (excl. land cost)	191.42	191.63	191.84	192.05
Returns - Cost	6.58	17.37	28.16	38.95
Land Cost	42.43	46.10	49.76	53.43
Total Cost (incl. land cost)	233.85	237.73	241.60	245.48
Returns - Cost	-35.85	-28.73	-21.60	-14.48
Average Cost (¢/Lb.)	13.0	12.5	12.1	11.7

Table 6. Summary of Cost and Return Estimates per Acre for Lentils following Winter Wheat in the 18–22 Inch Rainfall Area of Whitman County.

Production Level (Lbs.)	1300.00	1400.00	1500.00	1600.00
Expected Price (¢/Lb.)	18.5	18.5	18.5	18.5
Variable Cost	143.55	143.83	144.11	144.39
Fixed Cost (excl. land cost)	43.43	43.43	43.43	43.43
Total Cost (excl. land cost)	186.98	187.26	187.54	187.82
Returns - Cost	53.52	71.74	89.96	108.18
Land Cost	58.69	64.85	71.02	77.19
Total Cost (incl. land cost)	245.67	252.11	258.56	265.01
Returns - Cost	-5.17	6.89	18.94	30.99
Average Cost (¢/Lb.)	18.9	18.0	17.2	16.6

Detailed Results

The detailed budget results for each enterprise produced in the 18"–22" rainfall area of Whitman County are presented in the Appendix. Each detailed budget is for the yield level thought by the producer committee to be most representative of the given situation.

For each enterprise situation in the Appendix there are two tables that outline the cost and returns for producing the enterprise in question.. The first table, **"Schedule of Operations and Estimated Costs Per Acre for . . .,"** outlines the schedule of field operations by calendar month, the type of machinery used, and the hours used per acre for the enterprise being analyzed. The costs are divided into two categories. The first is machinery and land fixed costs. The second category, variable costs, is associated with operating machinery, labor and purchasing services and materials. Whenever

services and/or materials are purchased, what is purchased, how much and at what price is footnoted at the bottom of the table. Total cost is the sum of fixed and variable cost.

Machinery fixed cost includes depreciation, interest on the investment, property taxes, insurance and housing. For the overall farm operation, these costs do not vary with the crops produced, given the ownership of a specific machinery complement, and are incurred whether or not crops are grown. Machinery fixed costs for a specific field operation are determined by multiplying the machine hours per acre times the hourly fixed cost as shown in Table 20. The hourly fixed costs are determined by dividing the total fixed cost by the annual hours of machinery use for the representative firm.

Land fixed costs include taxes and net rent which is based on a one-third land owner and two-thirds tenant crop share with the land owner paying the land taxes and one-third the cost of fertilizer, chemicals and crop insurance. The tenant pays all other production costs. While the owner-operator will not actually experience a land rental cost, the cost represents the minimum returns the owner-operator must realize to justify growing the crop him or herself. This net rent return represents the income the owner-operator forgoes by producing the crop rather than renting to a tenant who produces the crop. As a result of owning land, the farmer receives both current returns from the farming operation and any long-term appreciation in land value. However, the farmer would continue to realize land value appreciation even if the land is rented out. Consequently, the appropriate land charge for growing the crop is only the forgone net rent. As used in this publication, for land that is owned and not rented, land cost is termed an opportunity cost to indicate that it is not an out-of-pocket expense, but rather a return that is forgone as a result of choosing to use the land to grow this crop. To determine the profitability of crop production relative to other activities, the owner-operator may want to consider these forgone returns, or opportunity costs, along with the usual production expenses.

Variable costs vary directly with the crop grown and the number of acres produced. Variable costs include fuel, oil, repairs, fertilizer, chemicals, custom work, overhead and interest on operating capital. Labor, including that provided by the owner-operator, is also included as a variable cost.

The second table, **"Itemized Cost Per Acre for . . .,"** itemizes the costs appearing in the **"Schedule of Operations and Estimated Cost Per Acre for . . ."** the respective crop enterprise. Most of the items are self-explanatory or have been explained previously. The entry "Machinery Interest" does, however, warrant some additional explanation. Machinery interest costs are calculated on the average annual investment in the machine. The formula used to calculate the average machine investment is:

$$\frac{\text{Purchase cost} + \text{Salvage value}}{2}$$

The 8.5% interest charge made against this average investment represents an opportunity cost (returns forgone by investing in a given machine implement rather than in an alternative investment) or interest paid on money borrowed to finance machine purchases, or both. Machinery interest cost for one acre of the crop enterprise being analyzed is determined by multiplying the respective machine hours per acre times the per hour interest costs shown in Table 20.

APPENDIX

2003 COST OF PRODUCING WINTER WHEAT,

SPRING WHEAT, SPRING BARLEY, PEAS AND LENTILS

WHITMAN COUNTY, WASHINGTON

18” – 22” RAINFALL AREA

TABLE 7. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR **WINTER WHEAT FOLLOWING PEAS OR LENTILS** IN THE 18" – 22" RAINFALL AREA OF WHITMAN COUNTY.

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST						TOTAL COST
							FUEL, LUBE, & REPAIRS	MACH LABOR	SERVICE	MATER.	INTER.	TOTAL VARIABLE COST	
						$	$	$	$	$	$	$	$
SPRAY (10%) [1]	ATV W/SPRAYER	OCT	2002	.03	.03	.20	.06	.46	.00	1.29	.14	1.95	2.16
FERTILIZE[2]	300HP-CHAL W/36' RIPPER SHOOTR	OCT	2002	.05	.06	.99	.73	.84	.00	40.00	3.24	44.80	45.79
HAUL SEED	2-TON TRUCK	OCT	2002	.03	.03	.38	.28	.46	.00	.00	.06	.80	1.17
SEED[3]	300HP-CHAL W/36' JD 455 DRILL	OCT	2002	.05	.06	.99	.73	.84	7.50	15.03	1.88	25.97	26.96
SPRAY[4]	CUSTOM AERIAL APPLIED	APR	2003	.00	.00	.00	.00	.00	5.00	20.00	.89	25.89	25.89
CROP INSURANCE	FIRE AND HAIL INSURANCE	MAY	2003	.00	.00	.00	.00	.00	3.50	.00	.10	3.60	3.60
SPRAY (5%) [5]	LABOR W/BACK PACK SPRAYER	JUL	2003	.01	.01	.01	.01	.14	.00	.51	.01	.66	.67
HARVEST	30' COMBINE	AUG	2003	.13	.14	14.04	4.85	1.93	.00	.00	.05	6.82	20.86
HAUL WHEAT	2-T0N TRUCK	AUG	2003	.06	.07	.78	.58	.96	.00	.00	.01	1.56	2.34
HAUL WHEAT	TANDEM AXLE TRUCK	AUG	2003	.06	.07	1.37	.89	.96	.00	.00	.01	1.87	3.24
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.53	3.08	.00	.00	.20	4.81	6.41
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	6.08	.00	.00	6.08	6.08
TAXES	LAND TAXES	ANN	2003	.00	.00	5.50	.00	.00	.00	.00	.00	.00	5.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	75.23	.00	.00	.00	.00	.00	.00	75.23
TOTAL PER ACRE				.75	.83	102.53	10.41	11.68	22.08	76.83	6.69	127.69	230.22

SERVICES AND MATERIALS USED:

[1] 1 QT. GLYPHOSPHATE @ $9.00/QT., 6.4 OZS. SURFACTANT @ $.145/OZ., 1.7 LBS. AMMONIA SULFATE @ $.12/LB. AND 4 OZS. BANVIL @ $.70/OZ. PER APPLIED ACRE.

[2] FERTILIZER AND APPLICATOR @ $40/ACRE.

[3] RENTED 36' JD 455 DRILL @ $7.50/ACRE. 90 LBS. WHEAT SEED @ $.167/LB.

[4] CUSTOM AERIAL @ $5.00/ACRE. HERBICIDE COST @ $20.00/ACRE.

[5] 1 QT. GLYPHOSPHATE @ $9.00/QT., 6.4 OZS. SURFACTANT @ $.145/OZ. AND 1.7 LBS. AMMONIA SULFATE @ $.12/LB. PER APPLIED ACRE.

TABLE 8. ITEMIZED COST PER ACRE FOR **WINTER WHEAT FOLLOWING PEAS OR LENTILS** IN THE 18″ – 22″ RAINFALL AREA OF WHITMAN COUNTY.

	UNIT	PRICE OR COST/UNIT	QUANTITY	VALUE OR COST	YOUR FARM
VARIABLE COSTS		$		$	
SPOT SPRAY*	ACRE	1.80	1.00	1.80	_____
FERT & APPLICATION	ACRE	40.00	1.00	40.00	_____
36'JD 455 DRILL	ACRE	7.50	1.00	7.50	_____
WHEAT SEED	LB.	.17	90.00	15.03	_____
CUSTOM AERIAL	ACRE	5.00	1.00	5.00	_____
HERBICIDES	ACRE	20.00	1.00	20.00	_____
CROP INSURANCE	ACRE	3.50	1.00	3.50	_____
MACHINERY REPAIRS	ACRE	5.78	1.00	5.78	_____
MACHINE FUEL/LUBE	ACRE	4.62	1.00	4.62	_____
LABOR(TRAC/MACH)	HOUR	14.00	.83	11.68	_____
OVERHEAD	ACRE	6.08	1.00	6.08	_____
INTEREST ON OP. CAP.	ACRE	6.69	1.00	6.69	_____

TOTAL VARIABLE COST				127.69	_____
FIXED COSTS		$		$	
MACHINE DEPRECIATION	ACRE	9.47	1.00	9.47	_____
MACHINE INTEREST	ACRE	8.81	1.00	8.81	_____
MACHINE INSURANCE	ACRE	.62	1.00	.62	_____
MACHINE TAXES	ACRE	1.86	1.00	1.86	_____
MACHINE HOUSING	ACRE	1.03	1.00	1.03	_____
LAND TAXES	ACRE	5.50	1.00	5.50	_____
NET LAND RENT*	ACRE	75.23	1.00	75.23	_____

TOTAL FIXED COST				102.53	_____
TOTAL COST				230.22	_____

*SEE SPOT SPRAY FOOTNOTES ON TABLE 1.

**1/3 CROP – 1/3 FERTILIZER – 1/3 CHEMICALS – 1/3 CROP INSURANCE - LAND TAXES.

ASSUMING 82-BUSHEL YIELD SELLING AT $3.75/BU.

AVERAGE COST = $2.81/BU.

TABLE 9. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR **WINTER WHEAT FOLLOWING SPRING WHEAT OR SPRING BARLEY** IN THE 18" – 22" RAINFALL AREA OF WHITMAN COUNTY.

							VARIABLE COST						
OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	FUEL, LUBE, & REPAIRS	MACH LABOR	SERVICE	MATER.	INTER.	TOTAL VARIABLE COST	TOTAL COST
						$	$	$	$	$	$	$	$
SPRAY (5%) [1]	ATV W/SPRAYER	OCT	2002	.01	.02	.10	.03	.23	.00	.65	.07	.98	1.08
FERTILIZE[2]	300HP-CHAL W/36' RIPPER SHOOTR	OCT	2002	.05	.06	.99	.73	.84	.00	40.00	3.24	44.80	45.79
HAUL SEED	2-TON TRUCK	OCT	2002	.03	.03	.38	.28	.46	.00	.00	.06	.80	1.17
SEED[3]	300HP-CHAL W/36' JD 455 DRILL	OCT	2002	.05	.06	.99	.73	.84	7.50	15.03	1.88	25.97	26.96
SPRAY HERB[4]	CUSTOM AERIAL APPLIED	APR	2003	.00	.00	.00	.00	.00	5.00	20.00	.89	25.89	25.89
CROP INSURANCE	FIRE AND HAIL INSURANCE	MAY	2003	.00	.00	.00	.00	.00	3.50	.00	.10	3.60	3.60
SPRAY (5%) [5]	LABOR W/BACK PACK SPRAYER	JUL	2003	.01	.01	.01	.01	.14	.00	.51	.01	.66	.67
HARVEST	30' COMBINE	AUG	2003	.13	.14	14.04	4.85	1.93	.00	.00	.05	6.82	20.86
HAUL WHEAT	2-T0N TRUCK	AUG	2003	.06	.07	.78	.58	.96	.00	.00	.01	1.56	2.34
HAUL WHEAT	TANDEM AXLE TRUCK	AUG	2003	.06	.07	1.37	.89	.96	.00	.00	.01	1.87	3.24
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.53	3.08	.00	.00	.20	4.81	6.41
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	6.03	.00	.00	6.03	6.03
TAXES	LAND TAXES	ANN	2003	.00	.00	5.50	.00	.00	.00	.00	.00	.00	5.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	75.45	.00	.00	.00	.00	.00	.00	75.45
TOTAL PER ACRE				.74	.82	102.65	10.38	11.45	22.03	76.18	6.62	126.66	229.31

SERVICES AND MATERIALS USED:

[1] 1 QT. GLYPHOSPHATE @ $9.00/QT., 6.4 OZS. SURFACTANT @ $.145/OZ., 1.7 LBS. AMMONIA SULFATE @ $.12/LB. AND 4 OZS. BANVIL @ $.70/OZ. PER APPLIED ACRE.

[2] FERTILIZER AND APPLICATOR @ $40/ACRE.

[3] RENTED 36' JD 455 DRILL @ $7.50/ACRE. 90 LBS. WHEAT SEED @ $.167/LB.

[4] CUSTOM AERIAL @ $5.00/ACRE. HERBICIDE COST @ $14.00/ACRE.

[5] 1 QT. GLYPHOSPHATE @ $9.00/QT., 6.4 OZS. SURFACTANT @ $.145/OZ. AND 1.7 LBS. AMMONIA SULFATE @ $.12/LB. PER APPLIED ACRE.

TABLE 10. ITEMIZED COST PER ACRE FOR **WINTER WHEAT FOLLOWING SPRING WHEAT OR SPRING BARLEY** IN THE 18″ – 22″ RAINFALL AREA OF WHITMAN COUNTY.

	UNIT	PRICE OR COST/UNIT	QUANTITY	VALUE OR COST	YOUR FARM
VARIABLE COSTS		$		$	
SPOT SPRAY*	ACRE	1.16	1.00	1.16	_____
FERT & APPLICATION	ACRE	40.00	1.00	40.00	_____
36'JD 455 DRILL	ACRE	7.50	1.00	7.50	_____
WHEAT SEED	LB.	.17	90.00	15.03	_____
CUSTOM AERIAL	ACRE	5.00	1.00	5.00	_____
HERBICIDES	ACRE	20.00	1.00	20.00	_____
CROP INSURANCE	ACRE	3.50	1.00	3.50	_____
MACHINERY REPAIRS	ACRE	5.76	1.00	5.76	_____
MACHINE FUEL/LUBE	ACRE	4.61	1.00	4.61	_____
LABOR(TRAC/MACH)	HOUR	14.00	.82	11.45	_____
OVERHEAD	ACRE	6.03	1.00	6.03	_____
INTEREST ON OP. CAP.	ACRE	6.62	1.00	6.62	_____

TOTAL VARIABLE COST				126.66	_____
FIXED COSTS		$		$	
MACHINE DEPRECIATION	ACRE	9.42	1.00	9.42	_____
MACHINE INTEREST	ACRE	8.77	1.00	8.77	_____
MACHINE INSURANCE	ACRE	.62	1.00	.62	_____
MACHINE TAXES	ACRE	1.86	1.00	1.86	_____
MACHINE HOUSING	ACRE	1.03	1.00	1.03	_____
LAND TAXES	ACRE	5.50	1.00	5.50	_____
NET LAND RENT**	ACRE	75.45	1.00	75.45	_____

TOTAL FIXED COST				102.65	_____
TOTAL COST				229.31	_____

*SEE SPOT SPRAY FOOTNOTES ON TABLE 1.

**1/3 CROP – 1/3 FERTILIZER – 1/3 CHEMICALS – 1/3 CROP INSURANCE - LAND TAXES.

ASSUMING 82-BUSHEL YIELD SELLING AT $3.75/BU.

AVERAGE COST = $2.80/BU.

TABLE 11. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR **SPRING WHEAT FOLLOWING SPRING BARLEY** IN THE 18" – 22" RAINFALL AREA OF WHITMAN COUNTY.

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST					TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	MACH LABOR	SERVICE	MATER.	INTER.		
						$	$	$	$	$	$	$	$
PLOW (50%)	300HP-CHAL W/10BTM PLOW	OCT	2002	.10	.11	4.72	3.25	1.54	.00	.00	.37	5.17	9.89
CHISEL (50%)	300HP-CHAL W/23' CHISEL	OCT	2002	.04	.05	1.57	.84	.65	.00	.00	.12	1.61	3.17
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.01	.08	.05	.08	.00	.00	.01	.13	.21
SPRAY WEEDS[1]	300HP-CHAL W/80' SPRAYER	MAR	2003	.03	.03	.49	.36	.42	1.75	7.88	.44	10.86	11.35
CULTIVATE/HARROW	300HP-CHAL W/36'CULT&TINE HAR	APR	2003	.07	.08	2.71	1.48	1.11	.00	.00	.09	2.67	5.39
FERTILIZE[2]	300HP-CHAL W/36' RIPPER SHOOTR	APR	2003	.05	.06	.99	.73	.84	.00	35.00	1.30	37.86	38.85
CULTIVATE/HARROW	300HP-CHAL W/36'CULT&TINE HAR	APR	2003	.07	.08	2.71	1.48	1.11	.00	.00	.09	2.67	5.39
HAUL SEED	2-TON TRUCK	MAY	2003	.03	.03	.31	.23	.42	.00	.00	.02	.67	.98
SEED[3]	300HP-CHAL W/36' JD 455 DRILL	MAY	2003	.05	.06	.99	.73	.84	7.50	15.03	.68	24.78	25.77
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.01	.06	.05	.08	.00	.00	.00	.13	.19
SPRAY HERB[4]	300HP-CHAL W/80' SPRAYER	MAY	2003	.03	.03	.00	.00	.42	1.75	32.00	.97	35.14	35.14
CROP INSURANCE	FIRE AND HAIL INSURANCE	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
SPRAY FUNGICD[5]	CUSTOM AERIAL	JUN	2003	.00	.00	.00	.00	.00	5.00	10.00	.32	15.32	15.32
HARVEST	30' COMBINE	AUG	2003	.13	.14	14.04	4.85	1.93	.00	.00	.05	6.82	20.86
HAUL WHEAT	2-T0N TRUCK	AUG	2003	.06	.07	.78	.58	.96	.00	.00	.01	1.56	2.34
HAUL WHEAT	TANDEM AXLE TRUCK	AUG	2003	.06	.07	1.37	.89	.96	.00	.00	.01	1.87	3.24
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.53	3.08	.00	.00	.20	4.81	6.41
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	7.88	.00	.00	7.88	7.88
TAXES	LAND TAXES	ANN	2003	.00	.00	5.50	.00	.00	.00	.00	.00	.00	5.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	50.32	.00	.00	.00	.00	.00	.00	50.32
TOTAL PER ACRE				1.05	1.17	89.75	17.81	16.42	26.38	99.91	4.86	165.38	255.13

SERVICES AND MATERIALS USED:

[1] SPRAYER RENTAL @ $1.75/ACRE. 3/4 QT. GLYPHOSPHATE @ $9.00/QT. 6.4 LBS. SURFACTANT @ $.145/OZ. AND 1.7 LBS. AMMONIA SULFATE @ $.12/LB.

[2] FERTILIZER AND APPLICATOR @ $35/ACRE.

[3] DRILL RENTAL @ $7.50/ACRE. 90 LBS. OF WHEAT SEED @ $.167/LB.

[4] SPRAYER RENTAL @ $1.75/ACRE. HERBICIDE @ $32/ACRE.

[5] AERIAL APPLICATION @ $5.00/ACRE. FUNGICIDE @ $10/ACRE.

TABLE 12. ITEMIZED COST PER ACRE FOR **SPRING WHEAT FOLLOWING SPRING BARLEY** IN THE 18″ – 22″ RAINFALL AREA OF WHITMAN COUNTY.

	UNIT	PRICE OR COST/UNIT	QUANTITY	VALUE OR COST	YOUR FARM
VARIABLE COSTS		$		$	
GLYPHOSPHATE	QT.	9.00	.75	6.75	_____
AMMONIA SULFATE	LB.	.12	1.70	.20	_____
SURFACTANT	OZ.	.14	6.40	.93	_____
HERBICIDE	ACRE	32.00	1.00	32.00	_____
80' SPRAYER	ACRE	1.75	2.00	3.50	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
WHEAT SEED	LB.	.17	90.00	15.03	_____
36'JD 455 DRILL	ACRE	7.50	1.00	7.50	_____
FERT & APPLICATOR	ACRE	35.00	1.00	35.00	_____
FUNGICIDE	ACRE	10.00	1.00	10.00	_____
CUSTOM AERIAL	ACRE	5.00	1.00	5.00	_____
MACHINERY REPAIRS	ACRE	9.97	1.00	9.97	_____
MACHINE FUEL/LUBE	ACRE	7.83	1.00	7.83	_____
LABOR(TRAC/MACH)	HOUR	14.00	1.17	16.42	_____
OVERHEAD	ACRE	7.88	1.00	7.88	_____
INTEREST ON OP. CAP.	ACRE	4.86	1.00	4.86	_____
TOTAL VARIABLE COST				165.38	_____
FIXED COSTS		$		$	
MACHINE DEPRECIATION	ACRE	14.66	1.00	14.66	_____
MACHINE INTEREST	ACRE	13.73	1.00	13.73	_____
MACHINE INSURANCE	ACRE	.97	1.00	.97	_____
MACHINE TAXES	ACRE	2.91	1.00	2.91	_____
MACHINE HOUSING	ACRE	1.61	1.00	1.61	_____
LAND TAXES	ACRE	5.50	1.00	5.50	_____
LAND RENT*	ACRE	50.37	1.00	50.37	_____
TOTAL FIXED COST				89.75	_____
TOTAL COST				255.13	_____

*1/3 CROP – 1/3 FERTILIZER – 1/3 CHEMICALS – 1/3 CROP INSURANCE - LAND TAXES.

ASSUMING 68-BUSHEL YIELD SELLING AT $3.75/BU.

AVERAGE COST = $3.75/BU.

TABLE 13. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE **SPRING BARLEY FOLLOWING WINTER WHEAT** IN THE 18" – 22" RAINFALL AREA OF WHITMAN COUNTY.

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST					TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	MACH LABOR	SERVICE	MATER.	INTER.		
						$	$	$	$	$	$	$	$
PLOW (50%)	300HP-CHAL W/10BTM PLOW	OCT	2002	.10	.11	4.72	3.25	1.54	.00	.00	.37	5.17	9.89
CHISEL (50%)	300HP-CHAL W/23' CHISEL	OCT	2002	.04	.05	1.57	.84	.65	.00	.00	.12	1.61	3.17
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.01	.08	.05	.08	.00	.00	.01	.13	.21
SPRAY WEEDS[1]	300HP-CHAL W/80' SPRAYER	MAR	2003	.03	.03	.49	.36	.42	1.75	7.88	.44	10.86	11.35
CULTIVATE/HARROW	300HP-CHAL W/36'CULT&TINE HAR	APR	2003	.07	.08	2.71	1.48	1.11	.00	.00	.09	2.67	5.39
FERTILIZE[2]	300HP-CHAL W/36' RIPPER SHOOTR	APR	2003	.05	.06	.99	.73	.84	.00	35.00	1.30	37.86	38.85
HAUL WATER	2-TON TRUCK W/SLIP TANK	APR	2003	.01	.01	.16	.10	.15	.00	.00	.01	.26	.42
CULT/SPRY/HAR[3]	300HP-CHAL W/CULT,TINE,SPRAYER	APR	2003	.07	.09	2.71	1.48	1.21	1.75	13.57	.64	18.65	21.36
HAUL SEED	2-TON TRUCK	MAY	2003	.03	.03	.31	.23	.42	.00	.00	.02	.67	.98
SEED[4]	300HP-CHAL W/36' JD 455 DRILL	MAY	2003	.05	.06	.99	.73	.84	7.50	11.05	.57	20.69	21.67
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAY	2003	.01	.01	.06	.05	.08	.00	.00	.00	.13	.19
SPRAY HERB[5]	300HP-CHAL W/80' SPRAYER	MAY	2003	.03	.03	.00	.00	.42	1.75	6.25	.24	8.66	8.66
CROP INSURANCE	FIRE AND HAIL INSURANCE	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HARVEST	30' COMBINE	AUG	2003	.13	.14	14.04	4.85	1.93	.00	.00	.05	6.82	20.86
HAUL BARLEY	2-T0N TRUCK	AUG	2003	.06	.07	.78	.58	.96	.00	.00	.01	1.56	2.34
HAUL BARLEY	TANDEM AXLE TRUCK	AUG	2003	.06	.07	1.37	.89	.96	.00	.00	.01	1.87	3.24
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.53	3.08	.00	.00	.20	4.81	6.41
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	6.39	.00	.00	6.39	6.39
TAXES	LAND TAXES	ANN	2003	.00	.00	5.50	.00	.00	.00	.00	.00	.00	5.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	39.44	.00	.00	.00	.00	.00	.00	39.44
TOTAL PER ACRE				1.06	1.19	78.98	17.90	16.68	21.64	73.76	4.26	134.24	213.22

SERVICES AND MATERIALS USED:

[1] SPRAYER RENTAL @ $1.75/ACRE. 3/4 QT. GLYPHOSPHATE @ $9.00/QT. 6.4 LBS. SURFACTANT @ $.145/OZ. AND 1.7 LBS. AMMONIA SULFATE @ $.12/LB.

[2] FERTILIZER AND APPLICATOR @ $35/ACRE.

[3] SPRAYER RENTAL @ $1.75/ACRE. 1.25 QTS. FARGO @ $10.86/QT.

[4] DRILL RENTAL @ $7.50/ACRE. 85 LBS. OF BARLEY SEED @ $.13/LB.

[5] SPRAYER RENTAL @ $1.75/ACRE. HERBICIDE @ $6.25/ACRE.

TABLE 14. ITEMIZED COST PER ACRE FOR **SPRING BARLEY FOLLOWING WINTER WHEAT** IN THE 18″ – 22″ RAINFALL AREA OF WHITMAN COUNTY.

	UNIT	PRICE OR COST/UNIT	QUANTITY	VALUE OR COST	YOUR FARM
VARIABLE COSTS		$		$	
GLYPHOSPHATE	QT.	9.00	.75	6.75	_____
AMMONIA SULFATE	LB.	.12	1.70	.20	_____
SURFACTANT	OZ.	.145	6.40	.93	_____
FARGO	QT.	10.86	1.25	13.57	_____
HERBICIDE	ACRE	6.25	1.00	6.25	_____
BARLEY SEED	LB.	.13	85.00	11.05	_____
36'JD 455 DRILL	ACRE	7.50	1.00	7.50	_____
80' SPRAYER	ACRE	1.75	3.00	5.25	_____
FERT & APPLICATOR	ACRE	35.00	1.00	35.00	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
MACHINERY REPAIRS	ACRE	10.02	1.00	10.02	_____
MACHINE FUEL/LUBE	ACRE	7.87	1.00	7.87	_____
LABOR(TRAC/MACH)	HOUR	14.00	1.19	16.68	_____
OVERHEAD	ACRE	6.39	1.00	6.39	_____
INTEREST ON OP. CAP.	ACRE	4.26	1.00	4.26	_____
TOTAL VARIABLE COST				134.24	_____
FIXED COSTS		$		$	
MACHINE DEPRECIATION	ACRE	14.73	1.00	14.73	_____
MACHINE INTEREST	ACRE	13.79	1.00	13.79	_____
MACHINE INSURANCE	ACRE	.98	1.00	.98	_____
MACHINE TAXES	ACRE	2.92	1.00	2.92	_____
MACHINE HOUSING	ACRE	1.62	1.00	1.62	_____
LAND TAXES	ACRE	5.50	1.00	5.50	_____
NET LAND RENT*	ACRE	39.44	1.00	39.44	_____
TOTAL FIXED COST				78.98	_____
TOTAL COST				213.22	_____

*1/3 CROP – 1/3 FERTILIZER – 1/3 CHEMICALS – 1/3 CROP INSURANCE - LAND TAXES.

ASSUMING 2-TON YIELD SELLING AT $100/TON.

AVERAGE COST = $106.61/TON.

TABLE 15. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR **PEAS FOLLOWING WINTER WHEAT** IN THE 18" – 22" RAINFALL AREA OF WHITMAN COUNTY.

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST						TOTAL COST
							FUEL, LUBE, & REPAIRS	MACH LABOR	SERVICE	MATER.	INTER.	TOTAL VARIABLE COST	
						$	$	$	$	$	$	$	$
PLOW (50%)	300HP-CHAL W/10BTM PLOW	OCT	2002	.10	.11	4.72	3.25	1.54	.00	.00	.37	5.17	9.89
CHISEL (50%)	300HP-CHAL W/23' CHISEL	OCT	2002	.04	.05	1.57	.84	.65	.00	.00	.12	1.61	3.17
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.01	.08	.05	.08	.00	.00	.01	.13	.21
SPRAY WEEDS[1]	300HP-CHAL W/80' SPRAYER	MAR	2003	.03	.03	.49	.36	.42	1.75	10.13	.54	13.20	13.70
HAUL WATER	2-TON TRUCK W/SLIP TANK	APR	2003	.01	.01	.16	.10	.15	.00	.00	.01	.26	.42
CULT/SPRY/HAR[2]	300HP-CHAL W/CULT,TINE,SPRAYER	APR	2003	.07	.09	2.71	1.48	1.21	1.75	26.00	1.08	31.51	34.23
CULTIVATE/HARROW	300HP-CHAL W/36'CULT&TINE HAR	APR	2003	.07	.08	2.71	1.48	1.11	.00	.00	.09	2.67	5.39
CROP INSURANCE	FIRE AND HAIL INSURANCE	MAY	2003	.00	.00	.00	.00	.00	2.50	.00	.07	2.57	2.57
HAUL SEED	2-TON TRUCK	MAY	2003	.03	.03	.31	.23	.42	.00	.00	.02	.67	.98
SEED[3]	300HP-CHAL W/36' JD 455 DRILL	MAY	2003	.05	.06	.99	.73	.84	7.50	25.00	.97	35.03	36.02
PACK	300HP-CHAL W/40' PACKER	MAY	2003	.04	.04	1.21	.64	.62	.00	.00	.04	1.29	2.50
SPRAY INSECT[4]	CUSTOM AERIAL	JUN	2003	.00	.00	.00	.00	.00	5.00	7.55	.27	12.82	12.82
SPRAY INSECT[5]	CUSTOM AERIAL	JUN	2003	.00	.00	.00	.00	.00	5.00	8.05	.28	13.33	13.33
HARVEST	24' COMBINE	AUG	2003	.15	.17	17.27	6.74	2.37	.00	.00	.06	9.17	26.44
HAUL PEAS	2-T0N TRUCK	AUG	2003	.08	.08	.96	.72	1.18	.00	.00	.01	1.91	2.88
HAUL PEAS	TANDEM AXLE TRUCK	AUG	2003	.08	.08	1.69	1.10	1.18	.00	.00	.02	2.30	3.99
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.53	3.08	.00	.00	.20	4.81	6.41
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	7.07	.00	.00	7.07	7.07
TAXES	LAND TAXES	ANN	2003	.00	.00	5.50	.00	.00	.00	.00	.00	.00	5.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	49.76	.00	.00	.00	.00	.00	.00	49.76
TOTAL PER ACRE				1.08	1.20	93.19	20.00	16.85	30.57	76.74	4.25	148.41	241.60

SERVICES AND MATERIALS USED:

[1] SPRAYER RENTAL @ $1.75/ACRE. 1 QT. GLYPHOSPHATE @ $9.00/QT. 6.4 LBS. SURFACTANT @ 4.145/OZ., 1.7 LBS. AMMONIA SULFATE @ $.12/LB.

[2] SPRAYER RENTAL @ $1.75/ACRE. HERBICIDE @ $26/ACRE.

[3] DRILL RENTAL @ $7.50/ACRE. 200 LBS. OF PEA SEED @ $.125/LB.

[4] CUSTOM AERIAL @ $5.00/ACRE. 1 LB. IMIDAN @ $7.55/LB.

[5] CUSTOM AERIAL @ $5.00/ACRE. 1.25 PINTS OF DIMETHOATE @ $5.37/PINT.

TABLE 16. ITEMIZED COST PER ACRE FOR **PEAS FOLLOWING WINTER WHEAT** IN THE 18″ – 22″ RAINFALL AREA OF WHITMAN COUNTY.

	UNIT	PRICE OR COST/UNIT	QUANTITY	VALUE OR COST	YOUR FARM
VARIABLE COSTS		$		$	
GLYPHOSPHATE	QT.	9.00	1.00	9.00	_____
SURFACTANT	OZ.	.145	6.40	.93	_____
AMMONIA SULFATE	LB.	.12	1.70	.20	_____
HERBICIDE	ACRE	26.00	1.00	26.00	_____
80' SPRAYER	ACRE	1.75	2.00	3.50	_____
PEA SEED	LB.	.13	200.00	25.00	_____
36'JD 455 DRILL	ACRE	7.50	1.00	7.50	_____
DIMETHOATE	PINT	5.37	1.50	8.05	_____
IMIDAN	LB.	7.55	1.00	7.55	_____
CUSTOM AERIAL	ACRE	5.00	2.00	10.00	_____
CROP INSURANCE	ACRE	2.50	1.00	2.50	_____
MACHINERY REPAIRS	ACRE	11.72	1.00	11.72	_____
MACHINE FUEL/LUBE	ACRE	8.27	1.00	8.27	_____
LABOR(TRAC/MACH)	HOUR	14.00	1.20	16.85	_____
OVERHEAD	ACRE	7.07	1.00	7.07	_____
INTEREST ON OP. CAP.	ACRE	4.25	1.00	4.25	_____
TOTAL VARIABLE COST				148.41	_____
FIXED COSTS		$		$	
MACHINE DEPRECIATION	ACRE	16.41	1.00	16.41	_____
MACHINE INTEREST	ACRE	15.38	1.00	15.38	_____
MACHINE INSURANCE	ACRE	1.08	1.00	1.08	_____
MACHINE TAXES	ACRE	3.25	1.00	3.25	_____
MACHINE HOUSING	ACRE	1.80	1.00	1.80	_____
LAND TAXES	ACRE	5.50	1.00	5.50	_____
NET LAND RENT*	ACRE	49.76	1.00	49.76	_____
TOTAL FIXED COST				93.19	_____
TOTAL COST				241.60	_____

* 1/3 CROP – 1/3 CHEMICAL – 1/3 CROP INSURANCE – LAND TAXES

ASSUMING 2000-LB. YIELD SELLING AT A 11¢/LB.

AVERAGE COST = 12.1¢/Lb.

TABLE 17. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR **LENTILS FOLLOWING WINTER WHEAT** IN THE 18" – 22" RAINFALL AREA OF WHITMAN COUNTY.

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST					TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	MACH LABOR	SERVICE	MATER.	INTER.		
						$	$	$	$	$	$	$	$
PLOW (50%)	300HP-CHAL W/10BTM PLOW	OCT	2002	.10	.11	4.72	3.25	1.54	.00	.00	.37	5.17	9.89
CHISEL (50%)	300HP-CHAL W/23' CHISEL	OCT	2002	.04	.05	1.57	.84	.65	.00	.00	.12	1.61	3.17
HAUL WATER	2-TON TRUCK W/SLIP TANK	MAR	2003	.01	.01	.08	.05	.08	.00	.00	.01	.13	.21
SPRAY WEEDS[1]	300HP-CHAL W/80' SPRAYER	MAR	2003	.03	.03	.49	.36	.42	1.75	10.13	.54	13.20	13.70
HAUL WATER	2-TON TRUCK W/SLIP TANK	APR	2003	.01	.01	.16	.10	.15	.00	.00	.01	.26	.42
CULT/SPRY/HAR[2]	300HP-CHAL W/CULT,TINE,SPRAYER	APR	2003	.07	.09	2.71	1.48	1.21	1.75	26.00	1.08	31.51	34.23
CULTIVATE/HARROW	300HP-CHAL W/36'CULT&TINE HAR	APR	2003	.07	.08	2.71	1.48	1.11	.00	.00	.09	2.67	5.39
CROP INSURANCE	FIRE AND HAIL INSURANCE	MAY	2003	.00	.00	.00	.00	.00	3.75	.00	.11	3.86	3.86
HAUL SEED	2-TON TRUCK	MAY	2003	.03	.03	.31	.23	.42	.00	.00	.02	.67	.98
SEED[3]	300HP-CHAL W/36' JD 455 DRILL	MAY	2003	.05	.06	.99	.73	.84	7.50	17.55	.75	27.37	28.36
PACK	300HP-CHAL W/40' PACKER	MAY	2003	.04	.04	1.21	.64	.62	.00	.00	.04	1.29	2.50
SPRAY INSECT[4]	CUSTOM AERIAL	JUN	2003	.00	.00	.00	.00	.00	5.00	8.05	.28	13.33	13.33
SWATH LENTILS[5]	CUSTOM SWATH	AUG	2003	.00	.00	.00	.00	.00	15.00	.00	.11	15.11	15.11
HARVEST	24' COMBINE	AUG	2003	.15	.17	17.27	6.74	2.37	.00	.00	.06	9.17	26.44
HAUL LENTILS	2-T0N TRUCK	AUG	2003	.08	.08	.96	.72	1.18	.00	.00	.01	1.91	2.88
HAUL LENTILS	TANDEM AXLE TRUCK	AUG	2003	.08	.08	1.69	1.10	1.18	.00	.00	.02	2.30	3.99
MISC USE	ATV	ANN	2003	.04	.04	.20	.06	.62	.00	.00	.03	.70	.90
MISC USE	3/4-TON PICKUP	ANN	2003	.20	.22	1.60	1.53	3.08	.00	.00	.20	4.81	6.41
MISC USE	50HP-WT W/BUCKET	ANN	2003	.05	.06	.56	.22	.77	.00	.00	.04	1.03	1.59
MISC USE	TANDEM AXLE TRUCK	ANN	2003	.02	.02	.44	.29	.31	.00	.00	.03	.62	1.06
MISC USE	2-TON TRUCK	ANN	2003	.02	.02	.25	.19	.31	.00	.00	.02	.52	.77
OVERHEAD	UTILITIES, LEGAL, ACCT, ETC.	ANN	2003	.00	.00	.00	.00	.00	6.86	.00	.00	6.86	6.86
TAXES	LAND TAXES	ANN	2003	.00	.00	5.50	.00	.00	.00	.00	.00	.00	5.50
LAND COST	NET LAND RENT	ANN	2003	.00	.00	71.02	.00	.00	.00	.00	.00	.00	71.02
TOTAL PER ACRE				1.08	1.20	114.45	20.00	16.85	41.61	61.74	3.92	144.11	258.56

SERVICES AND MATERIALS USED:

[1] SPRAYER RENTAL @ $1.75/ACRE. 1 QT. GLYPHOSPHATE @ $9.00/QT. 6.4 LBS. SURFACTANT @ $.145/OZ., 1.7 LBS. AMMONIA SULFATE @ $.12/LB.

[2] SPRAYER RENTAL @ $1.75/ACRE. HERBICIDE @ $26/ACRE.

[3] DRILL RENTAL @ $7.50/ACRE. 65 LBS. OF LENTIL SEED @ $.27/LB.

[4] CUSTOM AERIAL @ $5.00/ACRE. 1.25 PINTS OF DIMETHOATE @ $5.37/PINT.

[5] CUSTOM HIRE @ $15.00/ACRE.

TABLE 18. ITEMIZED COST PER ACRE FOR **LENTILS FOLLOWING WINTER WHEAT** IN THE 18″ – 22″ RAINFALL AREA OF WHITMAN COUNTY.

	UNIT	PRICE OR COST/UNIT	QUANTITY	VALUE OR COST	YOUR FARM
VARIABLE COSTS		$		$	
GLYPHOSPHATE	QT.	9.00	1.00	9.00	_____
HERBICIDE	ACRE	26.00	1.00	26.00	_____
SURFACTANT	OZ.	.145	6.40	.93	_____
AMMONIA SULFATE	LB.	.12	1.70	.20	_____
80' SPRAYER	ACRE	1.75	2.00	3.50	_____
LENTIL SEED	LB.	.27	65.00	17.55	_____
36'JD 455 DRILL	ACRE	7.50	1.00	7.50	_____
DIMETHOATE	PINT	5.37	1.50	8.05	_____
CUSTOM AERIAL	ACRE	5.00	1.00	5.00	_____
CROP INSURANCE	ACRE	3.75	1.00	3.75	_____
CUSTOM SWATH	ACRE	15.00	1.00	15.00	_____
MACHINERY REPAIRS	ACRE	11.72	1.00	11.72	_____
MACHINE FUEL/LUBE	ACRE	8.27	1.00	8.27	_____
LABOR(TRAC/MACH)	HOUR	14.00	1.20	16.85	_____
OVERHEAD	ACRE	6.86	1.00	6.86	_____
INTEREST ON OP. CAP.	ACRE	3.92	1.00	3.92	_____

TOTAL VARIABLE COST				144.11	_____
FIXED COSTS		$		$	
MACHINE DEPRECIATION	ACRE	16.41	1.00	16.41	_____
MACHINE INTEREST	ACRE	15.38	1.00	15.38	_____
MACHINE INSURANCE	ACRE	1.08	1.00	1.08	_____
MACHINE TAXES	ACRE	3.25	1.00	3.25	_____
MACHINE HOUSING	ACRE	1.80	1.00	1.80	_____
LAND TAXES	ACRE	5.50	1.00	5.50	_____
NET LAND RENT*	ACRE	71.02	1.00	71.02	_____

TOTAL FIXED COST				114.45	_____
TOTAL COST				258.56	_____

* 1/3 CROP –1/3 CHEMICALS – 1/3 CROP INSURANCE – LAND TAXES

ASSUMING 1500-LB. YIELD SELLING AT 18.5¢/LB.

AVERAGE COST = 17.2¢/Lb.

TABLE 19. Machinery Complement.

Type of Machine	Replacement Value $	Years of Life	Annual Hours of Use	Salvage Value $	Annual Repairs (Materials & Labor) $	Comments
2-Ton Truck	20,000	15	200	3,000	1,000	
Tandem Axle Truck	35,000	15	200	4,500	2,000	
3/4-Ton Pickup	22,000	10	400	7,500	1,500	
4WD-ATV	5,000	10	150	1,500	75	
Mounted Sprayer for ATV	600	10	50	0	20	
50HP-WT w/Bucket	15,000	20	150	3,500	150	
300HP Challenger	95,000	15	600	20,000	2,500	
23' Chisel	17,500	15	125	2,000	700	
36' Cultivator w/Tine Harrow	18,000	15	125	3,500	750	
40' Packer	9,500	20	100	1,000	150	
10-BTM Plow	22,000	15	100	4,000	1,800	
Back Pack Sprayer	500	15	50	0	25	
Slip Tank (2000 gal)	1,500	15	50	0	25	Allocate at a yearly cost of approx. 25¢/acre
9600 JD Combine	180,000	15	200	35,000	5,000	Repair cost increase 20% w/peas & lentil

TABLE 20. MACHINERY COST PER HOUR.

MACHINERY	PURCHASE PRICE	YEARS TO TRADE	ANNUAL HOURS	DEPREC-IATION	INTER-EST	INSUR-ANCE	TAXES	HOUSING	TOTAL FIXED COST	REPAIR	FUEL AND LUBE	TOTAL VARIABLE COST	TOTAL COST
	$			COST PER HOUR									
2-TON TRUCK	20,000.00	15	200	5.67	4.89	.35	1.04	.58	12.51	5.00	4.31	9.31	21.82
TANDEM AXLE TRUCK	35,000.00	15	200	10.17	8.39	.59	1.78	.99	21.92	10.00	4.31	14.31	36.23
3/4-TON PICKUP	22,000.00	10	400	3.62	3.13	.22	.66	.37	8.01	3.75	3.91	7.66	15.67
4WD-ATV	5,000.00	10	150	2.33	1.84	.13	.39	.22	4.91	.50	.98	1.48	6.39
ATV SPRAYER	600.00	10	50	1.20	.51	.04	.11	.06	1.91	.40	.00	.40	2.31
50HP-WT W/BUCKET	15,000.00	20	150	3.83	5.24	.37	1.11	.62	11.17	1.00	3.45	4.45	15.62
300HP CHALLENGER	95,000.00	15	600	8.33	8.15	.58	1.73	.96	19.74	4.17	10.35	14.52	34.25
23' CHISEL	17,500.00	15	125	8.27	6.63	.47	1.40	.78	17.55	5.60	.00	5.60	23.15
36' CULT W/HARROW	18,000.00	15	125	7.73	7.31	.52	1.55	.86	17.97	6.00	.00	6.00	23.97
40' PACKER	9,500.00	20	100	4.25	4.46	.32	.95	.53	10.50	1.50	.00	1.50	12.00
10-BTM PLOW	22,000.00	15	100	12.00	11.05	.78	2.34	1.30	27.47	18.00	.00	18.00	45.47
BACK PACK SPRAYR	500.00	15	50	.67	.43	.03	.09	.05	1.26	.50	.00	.50	1.76
2000 GAL SLIP TANK	1,500.00	15	50	2.00	1.28	.09	.27	.15	3.79	.50	.00	.50	4.29
9600 JD COMBINE	180,000.00	15	200	48.33	45.69	3.23	9.68	5.38	112.30	25.00*	13.80	38.80	151.10

* THIS REPAIR VALUE IS FOR WHEAT AND BARLEY. FOR PEAS AND LENTILS, REPAIRS INCREASE TO $30 PER ACRE.

Table 21. Input Prices.

Ammonia sulfate	12¢/lb
Glyphosphate	$9.00/quart
Banvil	70¢/ounce
Fargo	$10.86/quart
Pursuit	$4.09/ounce
Surfactant	14.5¢/ounce
Chiptox	$1.33/pint
Harmony-Extra	$14.20/ounce
Buctril	54¢/ounce
Discover	$5.93/ounce
Imidan	$7.55/lb
Dimethoate	$5.37/pint
Wheat seed	16.7¢/pound
Barley seed	13¢/pound
Pea seed	12.5¢/pound
Lentil seed	27¢/pound
Custom aerial	$5.00/acre
Labor	$14.00/hour
Land taxes	$5.50/acre
Crop insurance	
Winter Wheat	$3.50/acre
Spring Barley	$2.50/acre
Spring Wheat	$2.50/acre
Spring Peas	$2.50/acre
Spring Lentils	$3.75/acre

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